

Agricultural, Natural and Cultural Resources

Major Findings

1. St. Cloud has some natural resources that are an asset to the community, such as the Sheboygan River valley, and should be preserved as much as possible.
2. St. Cloud residents have indicated the importance of preserving natural areas for recreational activities and the general aesthetic qualities they provide.
3. The Village provides a public water and sanitary sewer system, so groundwater and soil types are not building hindrances nor issues within the area thus served, which is about one-quarter of the village area.

Goal, Objectives, and Policies

Goal

1. Conserve, protect, and improve the natural and cultural resources of St. Cloud.
2. Provide a safe, clean, and orderly environment for the residents of St. Cloud.

Objectives

1. Encourage urban development and redevelopment of land within the village, while maintaining the integrity of the environment.
2. Be proactive in the preservation of architecturally or historically significant structures.
3. Consider developing a Site Plan Review Ordinance to visually enhance the remodeling or development of new residential, multi-family, commercial, or industrial uses.

Policies

1. Use the Village's Ordinances and WDNR regulations to protect environmental corridors from development.
2. Require the preservation of environmental corridors in the Village's subdivision review and approval process.

Background Information

Agricultural Resources

- ❑ Farming operations in the village limits are a valid use until such time as urban growth needs to occur.
- ❑ To preserve the usefulness of farmland within the village limits, urban growth should occur systematically in a natural progression of growth from the edge of developed land.

Natural Resources

- ❑ Developers and Village officials understand the importance of minimizing environmental impacts as urbanization occurs.
- ❑ The management and preservation of certain environmentally sensitive parcels within St. Cloud should add to the quality of life enjoyed by residents.

- ❑ Environmental characteristics, including topography, drainage patterns, floodplains, wetlands, and soil properties are among the features that determine whether an area is suitable for a specific type of development.
- ❑ Surface water and wetlands are highly regulated resources. Local, state and federal regulations and ordinances need to be thoroughly reviewed when development is proposed for property that is in or near any of these resources.

Topography

- ❑ Land relief within St. Cloud is approximately 122 feet, ranging from an elevation of 1,035 feet above sea level in the northeast portion of the village to 913' in the marshlands found in the southern portion of the community.
- ❑ An abandoned railroad grade in the village is an alteration to the original topography.

Geology

- ❑ The bedrock and glacial (surficial) geology of Fond du Lac County, including the St. Cloud area, are somewhat unique, and will be key components in determining the suitability for development within the area.
- ❑ The bedrock under the village is dolomite limestone, part of a formation known as the Niagara Cuesta. The Niagara formation extends from Niagara Falls in the east to the eastern shore of Lake Winnebago in the west, where it forms a dramatic escarpment.
- ❑ The Niagara escarpment (known locally as the "ledge") is the most prominent geologic feature in Fond du Lac County.
- ❑ A cuesta is a persistent ridge with a gentle slope on one side and a steep slope (the escarpment) on the other, and, in general, reflects erosional resistance.
- ❑ There is a considerable amount of evidence to suggest that the Niagara escarpment in Wisconsin took on its current form as a result of the last glaciation. As the ice pushed forward it helped carve out the cliffs and ledges that we see throughout the northeast and east-central portions of the state.
- ❑ The escarpment is unique in this area because of the parallel movement of the glacier against rock. Where the escarpment runs visibly, across portions of Door, Kewaunee, Brown, Calumet, Fond Du Lac, and Dodge counties, its appearance is much more uniform than in other areas of the cuesta.
- ❑ The composition of the cuesta consists principally of highly fractured dolomitic limestone referred to as Silurian Dolomite or Niagara Limestone.
- ❑ The Niagara cuesta offers scenic vistas, significant archeological sites, and unique and potentially endangered plant and animal species.

Groundwater Resources

- ❑ Groundwater resources within the St. Cloud area are linked directly to the surficial glacial deposits and underlying bedrock structure as described previously.
- ❑ Of the available aquifers, the Dolomite Limestone aquifer is the most widely used for sustained high capacity wells for St. Cloud, including the municipal wells.
- ❑ The Village of St. Cloud approved a Wellhead Protection Plan for its municipal wells. The Plan inventories existing features that may potentially cause contamination and recommends specific actions to address these concerns. The Wellhead Protection Plan encompasses an area within one mile of the municipal wells.
- ❑ Areas of high groundwater should be avoided for development because of the potential negative impact on the quality of the groundwater and the cost of mitigating the impacts of high groundwater levels on the building foundations.

- ❑ The Wisconsin Groundwater Coordinating Council is an interagency group whose purpose is to serve as a means of increasing the efficiency, and facilitating the effective functioning, of state agencies in activities related to groundwater management. More information about the Council's responsibilities, actions, activities, and coordination efforts with local officials can be viewed at www.dnr.wi.gov/org/water/dwg/gcc/index.htm

Drainage and Surface Water Features

- ❑ The St. Cloud area is located within the drainage basin of the Sheboygan River, which flows into Lake Michigan.
- ❑ The major surface water feature within the village is the Sheboygan River, which flows through the south side of the village. Additional unnamed intermittent streams and ponds also exist within the village limits. One such stream, in the southeastern corner of the village, appears on the WDNR website map. It is worth noting that the WDNR zealously regulates any uses within five hundred feet of anything they designate as navigable waters. Their definition of navigable waters is anything that will float a small canoe at maximum flow during the year. Care should be taken to consult with the WDNR regarding any proposed use in the vicinity of anything that they might term navigable waters.
- ❑ Both the Sheboygan River, which flows through the south side of the village, and Pauly's Lake west of the village, are termed "Designated Waters" by the WDNR. These are water bodies that have special designations that affect permit requirements. Specifically, they are what the WDNR terms Areas of Special Natural Resource Interest, and are also considered Priority Navigable Waters.

Floodplains

- ❑ Areas susceptible to flooding are considered unsuitable for any type of development due to potential health risks and property damage. No such areas have been identified by the Federal government within the village limits of St. Cloud.
- ❑ If the Federal government issues a new floodplain map, it will be reviewed for necessary action as appropriate.
- ❑ The Village of St. Cloud has not adopted its own Floodplain Zoning District. Should it do so, it is suggested that the ordinance only allow for agricultural or recreational land uses within a floodplain. Structures may be authorized with permitted uses or as a special use, and would require numerous floodproofing construction techniques. Additional criteria would apply to the filling of lands within the floodplain.

Shoreland and Wetland Resources

- ❑ Wetlands and shoreland areas are essential environmental features for providing wildlife habitat, scenic open spaces, floodwater retention, and groundwater discharge areas.
- ❑ Protection of wetlands is especially important for stormwater management purposes and open space planning.
- ❑ Local, state, and federal regulations place strict limitations on the development and use of wetlands and shorelands.
- ❑ Shorelands, as defined by the WDNR, are those areas within 300 feet of the ordinary high water mark of navigable streams, rivers, or to the "landward side of the floodplain, whichever distance is greater," and shoreland use and development within 1,000 feet of lakes, ponds, or flowages.
- ❑ The U.S. Army Corps of Engineers has federal authority over the placement of fill materials in virtually all wetlands of five acres or greater.
- ❑ St. Cloud has several large tracts of wetlands within its corporate boundary. Some are associated with the Sheboygan River in the southern portion of the village. The largest area is in the

west-central portion of the village. These narrow-leaved, emergent/wet meadow types of wetlands are contained within floodplain areas and serve as important floodwater storage areas for the Sheboygan River system. Not including small tracts of wetlands less than five acres, approximately 46 acres of the village, 8%, are considered wetlands.

- ❑ The amount and variety of wetlands will limit future growth in certain directions within the village. Wetlands are shown on both the Existing Land Use Map (Map 1) and the Land Use Plan. The WDNR is currently working on a project (SE Wisconsin Coastal Habitat NAWCA III) which will create an emergent wetland west of the village, and restore native grassland south of the village. This program primarily restores grassland and wetland habitat that once existed in Wisconsin prior to its settlement. The restoration project also provides public recreational opportunities to town residents and all Wisconsin citizens.
- ❑ The WDNR website has information on wetlands as they relate to development projects or protection issues. The page provides links to specific administrative rules, discussions on wetland laws and programs, and other wetland issues. The WDNR website address is: <http://www.dnr.wi.gov/org/water/fhp/wetlands/programs.shtml>

Soil Characteristics

- ❑ Soils support the physical base for development within St. Cloud. Knowledge of the limitations and potential difficulties of soil types is important in evaluating proposals for land uses such as residential development, utility installation, and other various projects.
- ❑ Severe soil limitations do not necessarily indicate areas cannot be developed, but, rather, indicate more extensive construction measures must be taken to prevent damage to property and the environment. These construction techniques generally increase the costs of development and the utilities needed to service that development.
- ❑ The Theresa-Pella-Lamartine soil association is the one most prevalent in St. Cloud and the surrounding area. The Village currently provides public sanitary sewer, so soil types are not a determining factor where sewers exist.
- ❑ The soil distribution within the village itself is extremely complex, presumably reflecting the vagaries of glacial deposits. Several dozen types of soil can be encountered. It is wise to make an exploratory dig before committing to any construction project.

State Natural Areas

- ❑ State Natural Areas (SNAs) protect significant landscape features, geological formations, and archeological sites throughout Wisconsin. These areas are valued primarily for research and educational purposes, while providing safe havens for rare or scarce plants and animals. More information on all SNAs can be found at the following website: www.dnr.state.wi.us/org/land/er/sna/index.htm
- ❑ There are ten SNAs in Fond du Lac County. Most are in the Northern Unit of the Kettle Moraine State Forest. A cluster of them are found directly south of the St. Cloud area (see Map 4).

State Wildlife Areas

- ❑ The WDNR acquires and manages public lands that provide opportunities to hunt, fish, hike, canoe, or view wildlife. Specific information on State Wildlife Areas (SWAs) can be found at: <http://www.dnr.state.wi.us/org/land/wildlife/reclands/northeastmap.htm>
- ❑ The closest SWA to St. Cloud is the Sheboygan Marsh SWA about one mile east of St. Cloud. (see Map 11).
- ❑ The Mullet Creek Wildlife Area is located south of St. Cloud on CTH "G" (see Map 9).
- ❑ The WDNR has also acquired extensive wetland marsh property west of the village, being developed as the Saint Cloud State Wildlife Area (see Map 10).

- ❑ Advantages of having DNR-owned lands in the St. Cloud area are many, including the following:
 - a. Restored lands draw hunters and bird watchers to the area, especially during the fall and spring.
 - b. Provides residents an opportunity to connect with the natural resources
- ❑ For more information on the Glacial Habitat Restoration Area project, see the following website: <http://dnr.wi.gov/org/land/wildlife/ghra/>

Wetlands and Wildlife Habitat

- ❑ Wetlands provide habitat for wildlife, provide air quality benefits, and are an aesthetic amenity for the community. Because of their value to wildlife, the environment, and people, they should be preserved and remain undeveloped whenever possible.
- ❑ There is a large area of wetland in west-central St. Cloud.
- ❑ Wildlife habitat areas within the St. Cloud Area are comprised primarily of wetlands, and the river corridor.
- ❑ Based on WDNR studies, substantial areas of pheasant habitat exist in northern and north-eastern wetland areas.
- ❑ The WDNR has tabulated an extensive list of animals, plants, and natural communities in what it terms “aquatic occurrences” in the St. Cloud area (see Map 4)

Wildlife Habitat and Threatened and Endangered Species

- ❑ Information on wildlife habitat and threatened and endangered species is available from the WDNR at www.dnr.state.wi.us/org/land/er.
- ❑ Most species of WDNR interest in this area are found in the nearby wetlands.

Metallic and Non-Metallic Mineral Resources

- ❑ St. Cloud has no metallic or non-metallic mining operations within the village limits.
- ❑ Questions regarding non-metallic operations can be found in the following WDNR websites: www.dnr.wi.gov/org/water/dwg/qcc/index.htm, and www.dnr.wi.gov/org/aw/wm/mining/metallic/.

Air Quality

- ❑ The primary goal of the WDNR's air monitoring program is to increase public access to air monitoring data and strengthen its network of continuous monitoring sites.
- ❑ The air quality monitoring station nearest to St. Cloud is located in the City of Fond du Lac.
- ❑ More information on air quality is available at <http://dnr.wi.gov/air/index.asp>.

Cultural and Historic Resources

State and National Register of Historic Places

- ❑ A primary responsibility of the Wisconsin Historical Society's Division of Historic Preservation (DHP) is to administer the State and National Register of Historic Places programs. St. Cloud has no listings on the Historic Register.
- ❑ Whether or not a property has been placed on the Historic Register can be found by contacting the DHP at (608) 264-6500 or at: www.wisconsinhistory.org/hp/register/

Architecture and History Inventory

- ❑ A search of the DHP's on-line Architecture and History Inventory (AHI) revealed there are twenty records of properties for St. Cloud (a list of properties is in the Appendix).
- ❑ Information on architectural and historic sites can be found by contacting the DHP at (608) 264-6500 or at www.wisconsinhistory.org/ahi.

Community Design

- ❑ There are two basic categories of community design standards – built environment and natural environment. Examples of the former would be guidelines developed on the appearance and size of buildings, signs, and other man-made structures. The latter would include the protection of viewsheds given the topography of St. Cloud and other natural features that appeal to the aesthetic nature of people.
- ❑ It is clear that future residential development in St. Cloud will have an impact on the built environment. Encouraging development to occur in areas where there is existing development can help the Village meet the objectives of providing guidance to the built environment and protecting the natural environment.
- ❑ The challenge in developing and implementing community design standards and guidelines is that they tend to be subjective, meaning not everyone will agree with the design that results from the standards and guidelines being followed. One person's view of the physical appearance of a building or the aesthetic value of a wetland area may differ dramatically with another person's view. One objective should be to find the proper balance between maintaining the natural beauty of an area and developing it as the community continues to grow.